



SEQUENCE LISTING

<110> MERKULOV, Gennady V. et al

<120> ISOLATED HUMAN TRANSPORTER PROTEINS,  
NUCLEIC ACID MOLECULES ENCODING HUMAN TRANSPORTER PROTEINS,  
AND USES THEREOF

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<140> 09/768,781

<141> 2001-01-25

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<170> FastSEQ for Windows Version 4.0

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<212> DNA

<213> Homo sapien

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Tyr	Asp	Asp	Tyr	Lys	Ile	Arg	Leu	Gly	Pro	Leu	Glu	Val	Leu	Cys	Ile
				245					250					255	
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		260						265					270		
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Gly	Ala	Gln	Met	Pro	Asn	Asn	Ile	Glu	Lys	Asn	Phe	Ser	Arg	Val	Gly
305					310					315					320
Thr	Leu	Val	Val	Leu	Ile	Ser	Val	Thr	Ile	Leu	Tyr	Ala	Gly	Ile	Asn
				325					330					335	
Phe	Ser	Cys	Trp	Ser	Ala	Leu	Gln	Leu	Arg	Leu	Ala	Asp	Arg	Asp	Leu
			340					345					350		
Val	Asp	Lys	Gly	Gln	Asn	Trp	Gly	His	Met	Gly	Leu	His	Tyr	Ser	Val
		355					360					365			
Arg	Leu	Val	Glu	Asn	Val	Ile	Met	Val	Leu	Val	Phe	Lys	Phe	Phe	Gly
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Val	Lys	Val	Leu	Leu	Asn	Tyr	Cys	His	Ser	Leu	Ile	Ala	Leu	Gln	Leu
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				405					410					415	
Tyr	Leu	His	Pro	Leu	Arg	Ser	Leu	Phe	Thr	His	Asn	Val	Val	Asp	Tyr
			420					425					430		
Leu	His	Cys	Val	Cys	Cys	His	Gln	His	Pro	Arg	Thr	Arg	Val	Glu	Asn
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Ala	Ala	Ser	Ala	Leu	Tyr	Met	Val	Arg	Ile	Tyr	Arg	Lys	Asn	Ser	Glu
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Thr	Tyr	Arg	Met	Thr	Tyr	Thr	Phe	Ser	Phe	Phe	Met	Phe	Ser	Ser	Ile
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Met	Val	Gln	Leu	Thr	Leu	Ile	Phe	Val	His	Arg	Asp	Leu	Phe	Pro	Ser
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Phe	Val	His	Arg	Asp	Leu	Ser	Phe	Pro	Ala	Ser	Val	Ile	Ala	Ser	Val
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Phe	Leu	Phe	Val	Ala	Glu	Thr	Ala	Ala	Ala	Leu	Tyr	Leu	Ser	Ser	Thr
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Ile	Leu	Leu	Gly	Pro	Val	Ile	Arg	Cys	Leu	Glu	Ala	Met	Ile	Lys	Tyr
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Pro	Leu	Leu	Met	His	Leu	Leu	Gly	Pro	Arg	Cys	Glu	Tyr	Glu	Glu	Pro
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Tyr	Val	Ser	Thr	Lys	Asp	Gly	Glu	Ser	Ser	Arg	Asp	Arg	Pro	Leu	Ala
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Val	Phe	Cys	Ile	Tyr	Cys	Gln	Ser	Asp	Gln	Asn	Glu	Glu	Pro	Tyr	Val
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Val	Pro	Leu	Gly	Arg	Val	Val	Leu	Met	Val	Phe	Ser	Leu	Val	Ser	Glu
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465				470						475					480
Glu	Ile	Thr	Ser	Arg	Leu	Leu	Ile	Leu	Val	Leu	Phe	Ser	Ala	Thr	Leu
			485						490					495	
Lys	Leu	Lys	Ala	Val	Pro	Tyr	Gly	Ala	Cys	Asn	Leu	Ala	Ile	Ile	Lys
	500						505					510			
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	515					520						525			
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545				550						555					560
Tyr	Val	Cys	Ile	Phe	Leu	Trp	Arg	Ser	Phe	Glu	Ile	Ala	Thr	Arg	Val
			565						570					575	
Ile	Val	Leu	Val	Leu	Phe	Thr	Ser	Val	Leu	Lys	Ile	Trp	Val	Val	Ala
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Gln	Phe	Leu	Val	Leu	Asn	Phe	Leu	Ile	Ile	Leu	Phe	Glu	Pro	Trp	Ile
	595					600						605			
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625				630						635					640
Tyr	Ala	Gly	Ile	Asn	Phe	Ser	Cys	Trp	Ser	Ala	Leu	Gln	Asn	Phe	Pro
			645						650					655	
Trp	Ile	Phe	Trp	Ser	Gly	Pro	Asn	Ile	Glu	Lys	Ser	Arg	Val	Gly	Thr
			660				665						670		
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	675					680						685			
Ile	Leu	Val	Asn	Phe	Phe	Ser	Phe	Phe	Leu	Tyr	Pro	Trp	Ile	Val	Phe
	690				695						700				
Trp	Cys	Ser	Gly	Ser	Pro	Phe	Pro	Glu	Asn	Ile	Glu	Lys	Ala	Leu	Ser
705				710						715					720
Arg	Val	Gly	Thr	Thr	Ile	Val	Leu	Cys	Phe	Leu	Thr	Leu	Leu	Tyr	Ala
			725						730					735	
Gly	Ile	Asn	Met	Phe	Cys	Trp	Ser	Ala	Val	Gln	Gln	Leu	Arg	Leu	Ala
		740					745					750			
Asp	Arg	Asp	Leu	Val	Asp	Lys	Gly	Gln	Asn	Trp	Gly	His	Met	Gly	Leu
	755					760						765			

His	Tyr	Ser	Val	Arg	Leu	Val	Glu	Asn	Val	Ile	Met	Val	Leu	Val	Phe
770						775					780				
Lys	Phe	Phe	Gly	Val	Lys	Val	Leu	Leu	Asn	Tyr	Cys	His	Ser	Leu	Ile
785					790					795					800
Ala	Leu	Gln	Leu	Ile	Ala	Tyr	Leu	Leu	Lys	Gln	Asn	Trp	Tyr	Arg	
			805						810						815
Glu	Asn	Leu	Phe	Cys	Leu	Leu	Gln	Leu	Ile	Tyr	Ser	Leu	Lys	Ile	
		820						825					830		
Asp	Asn	Pro	Glu	Leu	Ile	Ser	Lys	Ser	Gln	Asn	Trp	Tyr	Arg	Leu	Leu
		835					840					845			
Ile	Tyr	Tyr	Met	Thr	Arg	Phe	Ile	Glu	Asn	Ser	Val	Leu	Leu	Leu	Leu
850						855					860				
Trp	Tyr	Phe	Phe	Lys	Thr	Asp	Ile	Tyr	Met	Tyr	Val	Cys	Ala	Pro	Leu
865					870					875					880
Leu	Ile	Leu	Gln	Leu	Leu	Ile	Gly	Tyr	Gln	Leu	Ile	Ser	Ile	Asp	Phe
			885						890					895	
Met	Leu	Leu	Phe	Phe	Gln	Tyr	Leu	His	Pro	Leu	Arg	Ser	Leu	Phe	Thr
			900					905					910		
His	Asn	Val	Val	Asp	Tyr	Leu	His	Cys	Val	Cys	Cys	His	Gln	His	Pro
	915						920					925			
Arg	Thr	Arg	Val	Glu	Asn	Ser	Glu	Pro	Ile	Phe	Met	Leu	Phe	Gln	His
	930					935					940				
Pro	Leu	Phe	Val	Leu	Cys	Cys	Arg	Ser	Glu	Pro	Ser	Cys	Thr	Gly	Ile
945					950					955					960
Leu	Phe	Met	Leu	Val	Phe	Tyr	Gln	Phe	Phe	His	Pro	Cys	Lys	Lys	Leu
			965						970					975	
Phe	Ser	Ser	Ser	Val	Ser	Glu	Ser	Phe	Arg	Ala	Leu	Leu	Arg	Cys	Ala
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ttccctgtct accattcaga aaacttacct gaaatcttaa atgccaccat gatgaacatg 240
tggtatgtac ttgtgttcca aaacaatgaa cgatgtatt tgggctgtgt aaactagaat 300
sggaacaaca agacgtgatc accctgtgca tgaaggccat agctgcagag tgtgtaattt 360
tatttaaaaa aatttttttt tctgagacaa ggtcttgctc tgccctccag gctacagtgc 420
agtgggtgcga tcatggctca ctgcagcctt gatctcctgg gatcaagcga acctcccacc 480
tcagcctcca agtagctggg accaaaggaa tgtgtcacca tgccctggta attaaaaaaaa 540
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<210> 21
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<212> DNA
<213> Homo sapien

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ccattcagaa aacttacctg aaatcttaaa tgccaccatg atgaacatgt ggtatgtact 180
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gacgtgatca ccctgtgcat gaaggccata gctgcagagt gtgtaatttt atttaaaaaa 300
wttttttttt ctgagacaag gtcttgctct gcctccagag ctacagtgcg gtggtgcgat 360
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taatagtatc aagtatttcc attcagattg ccttgaagtg gaaagaatgc acttaatcct 180
agcgagatag gcacctgtgt caacagtctc atctggatgc tatggggttt tcaaggtaga 240
gagatgttgc aaaacttatg agttcaggag taaggaaatg accaagtttg tcttgattgc 300
ragagaggca gacaactgca gtcagccgag gaatatgggt cagagtgttg caatgggaag 360
atacctcatc attagacaac taaaaagtct gtgaaactaa ttaaggatgg aactcactcc 420
tttataaaat ttcatatctg tacacatgta taatttttat ttgtcactta tacctcaata 480
aggccaaaaa aattttttat caataaattt ttaagtgggg aggaatcgat taggctctat 540
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<212> DNA
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ctttataaaa tttcatatct gtacacatgt ataattttta tttgtcactt atacctcaat 180
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tcagagagaa	tatgggat	aatggaaac	agtggcctga	aatttggagt	ctagtcttcc	300
scctgtcatt	gactgggtgt	gtgttcttgg	taaaatctct	gaagatggct	tcacaggaag	360
gcatatagag	ttccctcatc	tgtaaagcaa	atgggttagt	ctaaatcatg	gggtctcaaac	420
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<210> 24

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> variation

<222> (301)...(301)

<223> A may be either present or absent

<400> 24

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gacttttttg	ctgagatatg	gttgtgagcc	ctttcttgaa	aaagcagaat	ctggccaggc	180
gcagtggctc	atgcctgtaa	tctcagcact	ttgggaagct	gaggtgggtg	gatcacctga	240
ggtcaggagt	tcaagaccag	cctggccaac	atggtgaaaa	cccgtctcta	ctaaaaatac	300
aaaaaaaaaa	aaaaccttag	ccggacatgg	tggcacatgc	ctgtaatccc	agctactcag	360
gaggctgagg	caggagaatc	gcttgaaccc	aggaggcaga	ggttacagtg	agctgagatc	420
gcgccagtgc	actccagcct	gggcgacaga	gcaagactct	gtctcaaaaa	aaaaaaaaaa	480
aagaaagaaa	gaaaaagaaa	aagcagaatc	taaaactttg	gttatggagc	tgaatgcttt	540
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a						601

<210> 25

<211> 601

<212> DNA

<213> Homo sapien

<400> 25

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gatcccagca	ctttgggtca	aggcagtagg	attgcttgag	cccaggagtt	tgagaccagt	180
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gcgcctgtag	tcctagctac	tcagaaggct	gaggtgggag	gatcatttga	gcctaggagg	300
wcaaagctgc	aatgaattat	gatttgtgcca	ctgcactcca	gccagggtga	tggagtaaga	360
ccttgtctca	aaaataaaaat	aaagtagcac	aacctcccca	agttattttt	ttccctcact	420
acaacctccc	ttcccaggac	agcttagtta	agtttgcatt	atgctttact	tctgcagatg	480
tttgagggcc	atgattaagt	acctcacact	gtggaagaaa	gaggagcagg	aggagcccta	540
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g						601

<210> 26

<211> 601

<212> DNA

<213> Homo sapien

<220>

<221> variation

<222> (301)...(301)



<223> K may be either present or absent

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tcacacacaa	aaaaagatat	tttggttcat	tttttcaatt	ttttgtgcat	ctattttgtt	180
ttattgtata	tattcaaggt	gtacaatgtg	atgtttcgat	gtatgtacac	attgtgaaat	240
gattaccaca	accaaactaa	ttaacacatt	catcacctca	catagtattc	atttttgtac	300
ktgtgtgtgt	gtgtgtgtgt	gtgtgtgtgg	taaaacttaa	gatctactct	ctttaaaaat	360
ttcaagtaca	caatacatta	ttgtcaacta	tagtcatcat	gttgtaacatt	agagctctga	420
aacttattta	tcttataact	ctaaatttgt	agcctttgat	caaaatcctt	ctatttccct	480
aaatccccat	cccctggtaa	ccacccttc	tactctgttg	ctaggtgttc	aactttttta	540
gattccacat	ataagtaaga	caatgcagta	tttttcttta	tgtgtctagc	tcatttctact	600
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<211> 601

<213> Homo sapien

<220>

<221> variation

 $\langle 222 \rangle \quad (301) \dots (301)$ 

<223> K may be either present or absent

<400> 27

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gcctctcact	tagtgcctca	ttagcagaga	tttctccaa	cccagctttt	ctgtgctctt	180
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a						601